

## Ticks (Acari: Ixodidae) from varanid lizards in eastern Indonesia

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During a faunal survey in eastern Indonesia conducted by staff of the Western Australian Museum and the Museum Zoologicum Bogorensis, a collection of 47 specimens of the lizard *Varanus timorensis* Gray 1831 was obtained on the islands of Timor (10°11'S, 123°43'E), Roti (10°51'S, 123°06'E), Semaui (10°10'S, 123°28'E) and Savu (10°29'S, 121°55'E) during May 1989 and September–October 1990. This species weighs up to 300 grams and has a total length of up to 0.6 m. It occupies open savanna woodland at low altitudes (Schmutz and Horn 1986) and feeds on invertebrates (orthopterans and spiders) and small vertebrates (King 1993).

A smaller sample of 20 specimens of *Varanus indicus* (Daudin, 1802) was collected on the islands of Wokam (05°48'S, 134°15'E), Kai Besar (05°39'S, 132°59'E), Banda Neira (04°33'S, 129°55'E) and Yamadana (07°45'S, 131°27'E) during April 1993 and September–October 1992. This species weighs up to 2 kg and has a total length of up to 1.5 m. It inhabits areas near water and feeds on a variety of prey including crabs, other invertebrates, mammals, birds and fish (Dryden 1965; Losos and Greene 1988; King unpublished).

Ticks were collected from 17 specimens (36%) of *V. timorensis* and were mostly found attached to the neck or tail. Ticks were found on most parts of the bodies of 12 (60%) of the *V. indicus* which were examined. Ticks were found on individuals collected on all the islands listed above except Roti. All those from *Varanus timorensis* were *Aponomma soembawensis* Anastos 1956 while all those from *Varanus indicus* were *Aponomma trimaculatum* (Lucas 1878).

*Aponomma soembawensis* has previously been recorded only from free-living *Varanus salvator* (Laurenti 1788) from the islands of Sumba (09°37'S, 119°07'E) and Sumbawa (08°52'S, 116°50'E) and from a captive *Python reticulatus* in a zoological garden on Java (Kaufman 1972). The discovery of this species on *V. timorensis* from eastern Nusa Tenggara means that it has now been collected from a new host species and from three new localities. It only occurs in a very small area of eastern Indonesia, being distributed on natural populations of varanids on the islands of the Lesser Sundas.

*Aponomma trimaculatum* has been collected from a number of host species including *Varanus indicus*, several other *Varanus* species and some species of snakes (Roberts 1970). It occurs over a wide distribution ranging from Sulawesi to the Philippines, New Britain and north-eastern Australia (Kaufman 1972; Santos Dias 1993). The record of *Varanus timorensis* (Kaufman 1972) as a host for this species is incorrect as the taxonomic status of the host has recently changed and it has been recognized as a separate species, *Varanus similis* Mertens 1958, which is restricted to northeastern Australia. All new localities reported for *A. trimaculatum* here are within the known distribution of the species.

Other species of ticks collected from reptiles in eastern Indonesia also have either very restricted distributions and strong host specificity or widespread distributions and weak host specificity. The species *Aponomma komodoense* Oudemans is only found on *Varanus komodoensis* Ouwens, 1912 on Komodo Island and Western Flores, and *A. robinsoni* Warburton is only found on *Varanus komodoensis* on Komodo Island. *A. helvolum* Koch is widespread in southeast Asia and infests a number of reptilian host species including several other species of *Varanus* (Auffenberg 1981, 1988). The known host specificity of *Aponomma soembawensis* is relatively strong and its distribution is limited while the host specificity of *Aponomma trimaculatum* is weak and it has a widespread distribution.

The region in which these specimens were collected contains a high number of endemic species of mammals (Kitchener and Suyanto 1996), snakes (How and Kitchener in press) and frogs (Smith and Boeadi 1996), and is regarded as a centre of vertebrate speciation (Watts and Baverstock 1996).

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